

Suyash Gupta

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EDUCATION

University of California Davis
Doctor of Philosophy
(Transfer from Purdue)

Davis, CA
Jan 2018 – Dec 2021

Purdue University
Master of Science

West Lafayette, IN
Aug 2015 – Dec 2017

Indian Institute of Technology Madras
Master of Science (Research)

Chennai, India
Jan 2012 – May 2015

GGSIP University
Bachelor of Technology

New Delhi, India
Aug 2007 – May 2011

WORK EXPERIENCE

- Assistant Professor, University of Oregon Sept 2024 – present
- Postdoctoral Researcher, UC Berkeley Jan 2022 – Aug 2024
- Lead Architect, ResilientDB Nov 2019 – present
- Voluntary Instructor, Mentors Without Borders Nov 2022 – Nov 2023
- Research Assistant, UC Davis Jan 2018 – Dec 2021
- Teaching Fellow, UC Davis Jan 2021 – Mar 2021
- Research Intern, Novi (Libra/Facebook) June 2020 – Sep 2020
- Teaching Assistant, Purdue University Aug 2017 – Dec 2017
- Research Assistant, Purdue University Aug 2015 – Aug 2017
- Intern, IBM India Research lab, New Delhi Feb 2015 – Apr 2015
- Project Associate, IIT Madras Jan 2014 – Dec 2014
- Teaching Assistant, IIT Madras Jan 2012 – Dec 2013
- Intern, Bharat Heavy Electrical Limited Jun 2010 – July 2010

PUBLICATIONS

Patents

- M. Sadoghi, J. Hellings, **S. Gupta**, and S. Rahn timer, *Multi-shard transactions in a Byzantine computing environment*, **US Patent US11968311B2**, Issued 2024.

Books

- **S. Gupta**, J. Hellings and M. Sadoghi, *Fault-tolerant Distributed Transactions on Blockchain*, Morgan & Claypool Synthesis Lectures on Data Management, 2021.

Conferences

- R. Frank, M. Murray, **S. Gupta**, C. Tankuranand, J. Yoo, Q. Xu, N. Crooks, and M. Kapritsos, *Picsou: Enabling Efficient Cross-Consensus Communication*, To appear in the proceedings of USENIX Symposium on Operating Systems Design and Implementation (**OSDI**). 2025.
- D. Kang, **S. Gupta**, D. Malkhi, and M. Sadoghi, *HotStuff-1: Linear Consensus with One-Phase Speculation*, To appear in the proceedings of International Conference on Management of Data (**SIGMOD**). 2025.

- S. Gupta, Y. Park, J. Bi, **S. Gupta**, A. Zuffe, A. Wildani, and Y. Liu, *Transfer Learning via Latent Dependency Factor for Estimating PM 2.5*, In 38th European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Database (**ECML PKDD**). 2024.
- **S. Gupta**, S. Rahn timer, S. Pandey, N. Crooks, and M. Sadoghi, *Dissecting BFT Consensus: In Trusted Components we Trust*, In 18th European Conference on Computer Systems (**EuroSys**), 2023 – **Best Paper Award** and **Awarded all the three Artifact Badges**.
- **S. Gupta**, M. J. Amiri, and M. Sadoghi, *Chemistry behind Agreement*, In the Conference on Innovative Data Systems Research (**CIDR**), 2023.
- **S. Gupta**, S. Rahn timer, E. Linsenmayer, F. Nawab, and M. Sadoghi, *Reliable Transactions in Serverless-Edge Architecture*, In 39th IEEE International Conference on Data Engineering (**ICDE**), 2023.
- S. Rahn timer, **S. Gupta**, R. Sogani, D. Krishnan, and M. Sadoghi, *RingBFT: Resilient Consensus over Sharded Ring Topology*, In 25th International Conference of Extending Database Technology (**EDBT**), 2022.
- **S. Gupta**, J. Hellings, S. Rahn timer, and M. Sadoghi, *Proof-of-Execution: Reaching Consensus through Fault-Tolerant Speculation*, In 24th International Conference of Extending Database Technology (**EDBT**), 2021.
- **S. Gupta**, J. Hellings, and M. Sadoghi, *RCC: Resilient Concurrent Consensus for High-Throughput Secure Transaction Processing*, In 37th IEEE International Conference on Data Engineering (**ICDE**). 2021.
- **S. Gupta**, S. Rahn timer, J. Hellings, and M. Sadoghi, *ResilientDB: Global Scale Resilient Blockchain Fabric*, In 46th International Conference on Very Large Databases (**VLDB**). 2020 — **Artifact Evaluated**.
- **S. Gupta**, S. Rahn timer, and M. Sadoghi, *Permissioned Blockchain Through the Looking Glass: Architectural and Implementation Lessons Learned*, In 40th IEEE International Conference on Distributed Computing Systems (**ICDCS**). 2020.
- T. Qadah, **S. Gupta**, and M. Sadoghi, *Q-Store: Distributed, Multi-partition Transactions via Queue-oriented Execution and Communication*. In 23rd International Conference of Extending Database Technology (**EDBT**), 2020.
- **S. Gupta**, J. Hellings, and M. Sadoghi, *Brief Announcement: Revisiting Consensus Protocols through Wait-free Parallelization*, In 33rd International Symposium on Distributed Computing (**DISC**). 2019.
- **S. Gupta** and M. Sadoghi, *EasyCommit: A Non-blocking Two-phase Commit Protocol*, In 21st International Conference of Extending Database Technology (**EDBT**), 2018.
- **S. Gupta**, R. Shrivastava, and V. K. Nandivada, *Optimizing Recursive Task Parallel Programs*, In 31st International Conference on Supercomputing (**ICS**), 2017.

Journals

- **S. Gupta** and M. Sadoghi, *Efficient and non-blocking agreement protocols*, Distributed and Parallel Database (**DAPD**), 2019.
- **S. Gupta** and V. K. Nandivada, *IMSuite: A Benchmark Suite for Simulating Distributed Algorithms*, Journal of Parallel and Distributed Computing (**JPDC**), Elsevier, 2015.

Thesis

- **S. Gupta**, *Resilient and Scalable Architecture for Permissioned Blockchain Fabrics*. University of California, Davis, 2021.
- **S. Gupta**, *Analyzing Recursive Task Parallel Programs*. Indian Institute of Technology (IIT) Madras, 2014.

Selected Articles

- J. Chen, **S. Gupta**, S. Rahn timer, and M. Sadoghi, *Power-of-Collaboration: A Sustainable Resilient Ledger Built Democratically*. IEEE Data Eng. Bulletin, 2022.
- **S. Gupta**, *Authenticated Concurrent Databases*, In International Workshop on High Performance Transaction Systems (**HPTS**), 2022

- **S. Gupta**, *Resilient and Scalable Architecture for Permissioned Blockchain Fabrics*, PhD Workshop, In 46th International Conference on Very Large Databases (**VLDB**), 2020.
- **S. Gupta**, J. Hellings, T. Qadah, S. Rahn timer, and M. Sadoghi, *Efficient Transaction Processing in Byzantine Fault Tolerant Environments*, In International Workshop on High Performance Transaction Systems (**HPTS**), 2019 – A Biennial Workshop.
- **S. Gupta** and M. Sadoghi, *Blockchain Transaction Processing*, In Encyclopedia of Big Data Technologies. Springer, Cham, 2018.

Tutorials

- **S. Gupta**, J. Hellings, S. Rahn timer, and M. Sadoghi, *Building High Throughput Permissioned Blockchain Fabrics: Challenges and Opportunities*, In 46th International Conference on Very Large Databases (**VLDB**), 2020.
- **S. Gupta**, J. Hellings, S. Rahn timer, and M. Sadoghi, *Blockchain consensus unraveled: Virtues and Limitations*, In 14th ACM International Conference on Distributed and Event-Based Systems (**DEBS**), 2020.
- **S. Gupta**, J. Hellings, S. Rahn timer, and M. Sadoghi, *An In-Depth Look of BFT Consensus in Blockchain: Challenges and Opportunities*, Middleware Tutorials, 2019.

Demonstrations

- S. Rahn timer, **S. Gupta**, T. Qadah, J. Hellings, and M. Sadoghi, *Scalable, Resilient and Configurable Permissioned Blockchain Fabric*, In 46th International Conference on Very Large Databases (**VLDB**), 2020.

OTHER RESOURCES

- **ResilientDB**, available online at <https://resilientdb.com/>. Source code is available at <https://github.com/resilientdb/resilientdb>. Incubating at Apache Source Foundation (ASF).
- **IMSuite** benchmark, available online at <http://www.cse.iitm.ac.in/~krishna/imsuite> and has been downloaded over 5000 times and well-cited.
- **DistCheck**, a Litmus Testing tool, available online at <https://github.com/gupta-suyash/DistCheck>.

GRANTS

- Received \$36000 grant for a period of 3 years from ThetaLabs to use access to ThetaEdge Cloud resources, such as access to NVIDIA GPUs.

AWARDS & HONORS

- Best Paper Award at EuroSys 2023.
- GGCS Best Graduate Researcher Award 2021.
- Best Use of Data Visualization, Best Mobile App, Most Launchable product sponsored by Dorm Room Fund and PrincetonPy/PICSciE Prize at HackPrinceton 2016.
- First Prize at HackIllinois 2016 (Best Software Hack), and Best use of Microsoft Technology award – 19-21st February 2016.
- First at Purdue University and finalist entry to Windward Code Wars Spring 2016.
- Qualified for Semi-finals at Microsoft Imagine Cup Spring 2016.
- First Prize at Boston Hacks 2015 – 31st Oct – 1st Nov 2015.
- Scholarship to attend POPL/PLMW 2015, at Mumbai, India.
- Outstanding Teaching Assistant Award for courses: CS3310 (Aug 12), CS6848 (Jan 13).
- Scholarship from MHRD, Government of India, for qualifying All India Graduate Aptitude Test in Engineering (GATE) and securing admission at IIT Madras.

- 1st prize, Inter College project competition, 2011, organized by GGSIPU and Delhi Knowledge Development Foundation
- 2nd prize, Technical Paper Presentation, 2011, organized in association of Computer Society of India (CSI) at Jamia Millia Islamia.
- 2nd prize at C/C++ programming at Info Expression 2009.

SERVICES

- **Artifacts Evaluation Chair**, Middleware 2025.
- **Assitant Editor**
 - Journal of Systems Research (JSys), Aug 2023 – present
- **Conference Reviewer**
 - NSDI 2026
 - SIGMOD 2023, 2025
 - ICDE 2022, 2023, 2025
 - USENIX ATC 2024, 2025
 - FC 2025
 - ICDCS 2021, 2025
 - IJCAI 2024
 - EuroSys Posters 2024
 - VLDB Tutorials 2023, 2024
 - IEEE DAPPS 2022, 2023, 2024
 - FAB 2022, 2024
 - ACM DEBS 2023
 - IEEE BigData 2021, 2022, 2023
 - Sigmod Record 2019
- **Journal Reviewer**
 - IEEE/ACM Transactions on Networking (ToN), 2024
 - ACM Transactions on Computer Systems (TOCS), 2023
 - IEEE Transactions on Knowledge and Data Engineering (TKDE), 2023
 - IEEE Transactions on Computers (TC), 2023
 - IEEE Transactions on Parallel and Distributed Systems (TPDS), 2022, 2023
 - IEEE Transactions on Dependable and Secure Computing (TDSC), 2022
 - Distributed and Parallel Databases (DAPD), 2021, 2022
 - Journal of Systems Research (JSys), 2021, 2022
- **External Reviewer**
 - EDBT 2018
 - Middleware 2018.
- **Artifact Evaluation Committee**
 - SOSP 2023
 - OSDI 2023
 - ATC 2023
- **Web Chair**
 - FAB 2021, 2022
 - Middleware 2019
- **Others**
 - **Student Reviewer:** EuroSys 2022
 - **pVLDB Reproducibility:** 2019 – 2021
 - **Student Volunteer:** VLDB 2019.

STUDENTS

• Current

- Shistata Subedi, PhD, University of Oregon - Jan 2024
- Nihal Balivada, PhD, University of Oregon - Sep 2024
- Asim Nepal, MS, University of Oregon - Sep 2024
- Dakai Kang, PhD, UC Davis - Jan 2023
- Junchao Chen, PhD, UC Davis - Jan 2022

• Past

- Shubham Mishra, PhD, UC Berkeley (May 2023 - June 2024)
- Chun Deng, B.Sc, UC Berkeley (Jan 2023 - June 2024) - Now at Stanford
- Qibao Xu, B.Sc, UC Berkeley (June 2023 - Dec 2023) - Now at Cornell
- Michael Paper, M. Sc, EPFL (Feb 2023 - Aug 2023) - Now at Stanford
- Shivang Singh, B.Sc, UC Berkeley (Jan 2022 - July 2022) - Now at Bloomberg
- Shreya Shekhar, B.Sc, UC Berkeley (Jan 2022 - July 2022)
- Aditya Ramkumar, B.Sc, UC Berkeley (Sep 2021 - July 2022) - Now at Google
- Ian Chang, B.Sc, UC Berkeley (Sep 2021 - Dec 2021)
- Kentaro Vadney, B.Sc, UC Berkeley (Sep 2021 - Dec 2021)
- Shubham Pandey, MS, UC Davis (June 2020 - June 2021) - Now at Cisco, Bay Area
- Erik Linsenmayer, B.Sc, UC Davis (June 2020 - June 2021) - Now at DIII-D National Fusion Facility
- Alex Su, B.Sc, UC Davis (June 2020 - Dec 2020)
- Rohan Sogani, MS, UC Davis (Jan 2020 - Dec 2020) - Now at Amazon, Seattle
- Priya Holani, MS, UC Davis (Jan 2020 - Aug 2020) - Now at Amazon, Seattle
- Dhruv Krishnan, MS, UC Davis (Jan 2020 - Aug 2020) - Now at Amazon, Seattle
- Xinyuan Sun, B.Sc, UC Davis (Jan 2020 - Aug 2020)
- Federico Mengozzi, B.Sc, UC Davis (Sep 2018 - June 2019) - Now at Carsbarter, Murcia
- Shreenath Iyer, MS, UC Davis (Sep 2018 - June 2019) - Now at Amazon, Seattle
- Romen Rubero, B.Sc, UC Davis (Sep 2018 - June 2019) - Now at Carsbarter, Murcia
- Patrick J. Liao, B.Sc, UC Davis (Jan 2018 - Dec 2018) - Now at Juniper Technology
- Domenic Cianchi, MS, UC Davis (Jan 2018 - Aug 2018)

SEMINARS / TALKS

- *Dissecting BFT Consensus: In Trusted Components we Trust* at UC Irvine on 10/13/2023.
- *Dissecting BFT Consensus: In Trusted Components we Trust* at UWashington on 10/04/2023.
- *Dissecting BFT Consensus: In Trusted Components we Trust* at SkyRetreat'23 on 06/01/2023.
- *Dissecting BFT Consensus: In Trusted Components we Trust* at EuroSys'23 on 05/11/2023.
- *Dissecting BFT Consensus: In Trusted Components we Trust* at SysTEX'23 on 05/08/2023.
- *Reliable Transactions in Serverless-Edge Architecture* at ICDE'23 on 04/06/2023.
- *Chemistry Behind Agreement* at CIDR 2023 on 01/11/2023.
- *Red Light District of DB: BFT Consensus* at Gong Show, CIDR 2023 on 01/10/2023.
- *Dissecting BFT Consensus: In Trusted Components we Trust* at ConsensusDay'22, ACM CCS 2022 on 07/11/2022.
- *In Trusted Components we Trust* at HPTS 2022 on 11/10/2022.
- *Resilient and Scalable Architecture for Permissioned Blockchain Fabrics* at CSE Seminar, IIT Delhi on 07/12/2022.
- *Resilient and Scalable Architecture for Permissioned Blockchain Fabrics* at CSE Seminar Series, IIIT Delhi on 07/06/2022.
- *Resilient and Scalable Architecture for Permissioned Blockchain Fabrics* at Distributed Systems Lab, UPenn on 06/13/2022.
- *Resilient and Scalable Architecture for Permissioned Blockchain Fabrics* at FAB 2022, UC Berkeley on 06/03/2022.

- *Resilient and Scalable Architecture for Permissioned Blockchain Fabrics* at LSD Seminar, UC Santa Cruz on 04/08/2022.
- *Resilient and Scalable Architecture for Permissioned Blockchain Fabrics* at Ph.D Exit Seminar, UC Davis on 06/12/2021.
- *Resilient and Scalable Architecture for Permissioned Blockchain Fabrics* at IIT Madras on 04/30/2021.
- *Resilient and Scalable Architecture for Permissioned Blockchain Fabrics* at Faisal Nawab's Course, UC Irvine on 04/26/2021.
- *Resilient and Scalable Architecture for Permissioned Blockchain Fabrics* at SRG Student Seminar, UMich on 03/25/2021.
- *Resilient and Scalable Architecture for Permissioned Blockchain Fabrics* at RISELab, UC Berkeley on 03/12/2021.
- *Resilient and Scalable Architecture for Permissioned Blockchain Fabrics* at Novi Research Seminars on 01/28/2021.
- *Resilient Consensus for High-Throughput Secure Transaction Processing* at Elaine Shi's Research Group, CMU on 12/17/2020
- *RCC: Resilient Concurrent Consensus for High-Throughput Secure Transaction Processing* at Novi Intern Seminars on 08/17/2020.
- *ResilientDB: Global Scale Resilient Blockchain Fabric* at VLDB'20 on 09/01/2020 and 09/03/2020 (recorded video).
- *Building High Throughput Permissioned Blockchain Fabrics: Challenges and Opportunities* at VLDB'20 on 09/01/2020 (recorded video).
- *Resilient and Scalable Architecture for Permissioned Blockchain Fabrics* at PhD Workshop, VLDB'20 on 08/31/2020 (recorded video).
- *Blockchain consensus unraveled: Virtues and Limitations* at DEBS'20 on 07/14/2020.
- *An In-Depth Look of BFT Consensus in Blockchain: Challenges and Opportunities* at REIMAGINE v1.0 on 12/10/2019.
- *ResilientDB: Global Scale Resilient Blockchain Fabric* at FAB'20 on 05/01/2020 (recorded video).
- *Permissioned Blockchain Through the Looking Glass: Architectural and Implementation Lessons Learned* at FAB'20 on 05/01/2020 (recorded video).
- *An In-Depth Look of BFT Consensus in Blockchain: Challenges and Opportunities* at Middleware on 12/10/2019.
- *EasyCommit: A non-blocking two-phase commit protocol* at EDBT'18 on 03/29/2018.
- *Optimizing recursive task parallel programs* at ICS'17 on 06/14/2017.
- *IMSuite: A benchmark suite for simulating distributed algorithms* at Purdue University on 09/15/2016.
- *Analyzing Recursive Task Parallel Programs* at Indian Institute of Technology Madras on 10/16/2014.